



# BIOLOGY

## BOTANY AND ZOOLOGY FOR NEET AND AIIMS

### NEURAL CONTROL AND COORDINATION

#### Exercise I Neural System

1. Which of the following is an integrative system?

A. Excretory system

B. Nervous system

C. Respiratory system

D. Digestive system

**Answer: B**



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2. Identify the one with simplest nervous system from the following.

A. Both sponge

B. Jelly fish

C. Planarian

D. Polychete

**Answer: B**



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**3.** Radial nerves are seen connecting to a central nerve ring in

A. Sea anemone

B. Sea fan

C. Sea star

D. Sea mouse

**Answer: C**



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4. Which of the following have relatively more complex nervous system

- A. first triploblastic animals
- B. first segmented worms
- C. the largest group of animals
- D. pseudo coelomate animals

**Answer: C**



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5. The organisation of nervous system generally correlates with in animal group

A. life style

B. behaviour

C. body form

D. food habits

**Answer: A**



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6. Neural system is better organised in the following

A. Freshwater polyp

B. Bath sponge

C. Silver fish

D. Sea anemone

**Answer: C**



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## Exercise I Neurons As Structural And Functional Unit Of Neural System

1. The following transmit regulatory impulses from CNS to concerned tissue

- A. Efferent process
- B. Reticular fibres
- C. Afferent process
- D. Afferent fibres

**Answer: A**



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2. Nissl's granules are present in

A. Cyton

B. Dendron

C. Both 1 & 2

D. Axon

**Answer: C**



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3. Neurons of embryo, neurons of retina and cerebral cortex of the adult differ with one another in

- A. Number of axons
- B. Nature of axons
- C. Number of dendrites
- D. Nature of dendrites

**Answer: C**



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4. One of the following is related only to myelinated neurons. Identify it

A. Dendrites

B. Axon

C. Telodendrites

D. Nodes of ranvier

**Answer: D**



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5. "Neuroglia" of the nervous system represent

A. Receptor cells

B. Gland cells

C. Supporting cells

D. Nerve cells

**Answer: C**



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**Exercise I Generation And Conduction Of Narve Impulse**

1. A resting axonal membrane is comparatively more permeable to..... and nearly impermeable to.

- A.  $Na^{+}$  ions and  $K^{+}$  ions
- B.  $K^{+}$  ions and  $Na^{+}$  ions
- C.  $Ca^{+}$  ions and  $Na^{+}$  ions
- D.  $K^{+}$  ions and  $Ca^{+}$  ions

**Answer: B**



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2. Action potentials are generated due to

A. out flux of  $K^{+}$

B. influx of  $K^{+}$

C. influx of  $Na^{+}$

D. outflux of  $Na^{+}$

**Answer: C**



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3. Conduction speed of impulse is

- A. more across an electrical synapse
- B. more across a chemical synapse
- C. equal in both chemical and electrical synapses
- D. equal to that of action potentials

**Answer: A**



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4. Chemicals that are released at the synaptic junction are called

A. cerebrospinal fluids

B. hormones

C. lymph

D. neurotransmitters

**Answer: D**



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**5. In a nerve cell potassium concentration is**

A. less on outer side

B. greater on outer side

C. equal on both sides

D. none of these

**Answer: A**



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6. Potential difference across resting membrane is negatively charged. This is due to differential distribution of the following ions

A.  $Na^{+}$  and  $Cl^{-}$  ions

B.  $Ca^{++}$  and  $Cl^{-}$  ions



C.  $Na^+$  and  $K^+$  ions

D.  $Ca^{++}$  and  $Mg^+$  ions

**Answer: C**



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7. Resting membrane potential is maintained by

A. hormones

B. neurotransmitters

C. ion pumps

D. enzymes

**Answer: C**



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**8. Relative refractory period occurs during**

- A. depolarisation phase
- B. hyperpolarisation phase
- C. repolarisation phase
- D. resting phase

**Answer: B**



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9. In saltatory conduction of impulse

A. time is conserved

B. energy is conserved

C. both (1) and (2)

D. either time nor energy is conserved

**Answer: C**



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10. Which one of the following do not mediate nerve activity?

A. Dopamine

B. Aflatoxin

C. Norepinephrine

D. Acetyl choline

**Answer: B**



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11. During resting condition, the axonal membrane is

- A. More permeable to  $K^+$  than  $Na^+$
- B. More permeable to  $Na^+$  than  $K^+$
- C. Impermeable to  $Na^+$  than  $K^+$
- D. Impermeable to  $K^+$  than  $Cl^-$

**Answer: A**



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12. The action potential in a neuron is a brief change in

- A.  $CO_2$  concentration
- B.  $O_2$  concentration
- C. Electrical change
- D. Direction of impulse

**Answer: C**



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**13.** Chemicals which are released at the synaptic junctions are called

- A. hormones
- B. neurotransmitters
- C. cerebrospinal fluid
- D. lymph

**Answer: B**



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14. For most excitable cells, the threshold stimulus is

A.  $-55$  to  $-60mV$

B.  $+40mV$

C.  $-70mV$

D.  $+60mV$

**Answer: A**



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15. Resting membrane potential is maintained by

- A. hormones
- B. neurotransmitters
- C. ion pumps
- D. none of the above

**Answer: C**



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**Exercise I Central Neural System**

1. Innermost meninx covering brain is

- A. arachnoid
- B. meninx primitiva
- C. piameter
- D. duramater

**Answer: C**



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2. Cerebral hemispheres connected by

A. corpus spongiosum

B. corpus albicans

C. corpora striata

D. corpus callosum

**Answer: D**



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**3. Association areas of cerebral cortex are**

A. purely sensory

B. purely motor

C. neither clearly sensory nor motor

D. absnent

**Answer: C**



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**4. Hypothalamus is not related with this function**

A. controlling body temperature

B. urge for drinking

C. urge for eating

D. thinking, reasoning

**Answer: D**



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5. Not a part of limbic lobe or limbic system of brain is

A. amygdala

B. hippocampus

C. cerebellum

D. inner parts of cerebrum

**Answer: C**



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6. Corpora quadrigemina is a part of

- A. cerebrum
- B. medulla oblongata
- C. thalamencephalon
- D. mid brain

**Answer: D**



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7. Centre for controlling respiration lies in

- A. cerebrum
- B. medulla oblongata
- C. thalamencephalon
- D. mid brain

**Answer: B**



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8. Thermoregulatory centre in brain of man is

- A. pituitary
- B. diencephalon
- C. hypothalamus
- D. none of these

**Answer: C**



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**9. Primary visual area is located in**

- A. diencephalon
- B. optic lobe



C. cerebellum

D. cerebrum

**Answer: D**



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**10.** Lateral ventricle and diocoel of brain are connected by

A. foramen magnum

B. foramen of Monro

C. occipital foramen

D. aqueduct of sylvius

**Answer: B**



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**11.** An area of brain related with strong emotions is

A. cerebral cortex

B. cerebellum

C. limbic system

D. medulla oblongata

**Answer: C**



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**12.** All sensory information to be registered consciously by the forebrain must pass via the

- A. thalamus
- B. reticular formation
- C. cerebellum
- D. pons

**Answer: A**



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**13.** Primary auditory area is located in the .... lobes of cerebrum

A. frontal

B. temporal

C. occipital

D. parietal

**Answer: B**



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**14.** Brain of man is distinguished by the presence of

- A. Corpus albicans
- B. Corpus callosum
- C. Corpus spongiosum
- D. Corpus luteum

**Answer: B**



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**15.** Unique to the brain of mammals

- A. 3 meninges
- B. 4 optic lobes
- C. Gyri and Sulci
- D. All the above

**Answer: D**



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**16. Pick out the odd one**

- A. Coccyx
- B. Conus medullaris

C. Cauda equina

D. Filum terminale

**Answer: A**



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**17. Which is related to the spinal cord of man?**

A. Coliculi

B. Funiculi

C. Floculi

D. Fasciculi

**Answer: B**



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**18.** The connection between 1st and 2nd ventricles with 3rd ventricle

- A. Foramen ovale
- B. Foramen magnum
- C. Foramen of monro
- D. Foramen of panizza

**Answer: C**





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**19.** Anterior choroid plexus is a network of

- A. Nerve fibres
- B. Blood capillaries
- C. Axons
- D. Lymph capillaries

**Answer: B**



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**20.** Choroid plexuses of the brain are involved in the production of

- A. Lymph
- B. Endolymph
- C. Perilymph
- D. Cerebrospinal fluid

**Answer: D**



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21. Irrespective of seasonal temperature changes the body temperature of humans remains at  $37^{\circ}\text{C}$ .

This is possible due to

A. Epithalamus

B. Hypothalamus

C. Cerebrum

D. Diencephalon

**Answer: B**



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## Exercise I Reflex Actions And Reflex Arc

1. Reflex action involves

A. medulla oblongata

B. cerebellum

C. optoc lobe

D. spinal cord

**Answer: D**



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2. Sensory ganglion concerned with spinal reflex is found in

- A. ventral root of spinal nerve
- B. dorsal ganglion of apinal nerve
- C. dorsal root of spinal nerve
- D. cutaneous sense organ

**Answer: C**



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3. Which of the following is an example for conditioned reflex?

A. cycling

B. withdrawal of hand on touching a hot plate

C. watering of mouth at the smell of food

D. flowing of tears while cutting onions

**Answer: A**



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4. Which of the following is not involved in knee jerk reflex?

A. Muscle spindle

B. Motor neuron

C. Brain

D. interneurons

**Answer: C**



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5. Interneurons are located in the

- A. Sympathetic nervous system
- B. Central nervous system
- C. Somatic nervous system
- D. Parasympathetic nervous system

**Answer: B**



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6. Identify the reflex arc.



- A. Brain – spinal cord - muscle
- B. Muscle - receptor - spinal cord
- C. Receptor - spinal cord - muscle
- D. Muscle – spinal cord – receptor

**Answer: C**



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**7. Identify the one which is not a reflex action.**

- A. Salivation on the sight of food
- B. Weight lifting

C. Closing the eyelids when an object comes across suddenly.

D. Typing by a professional

**Answer: B**



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**8. Which of the following is not a reflex action?**

A. Salivation

B. Sweating

C. Withdrawal of hand when pinched by needle

D. None of these

**Answer: B**



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## Exercise I Peripheral Nervous System

1. Somatic neural system which is a part of PNS  
relays impulses from the CNS to

A. involuntary organs

B. smooth muscles

C. skeletal muscles

D. viscera

**Answer: C**



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**2. Lateral funiculi have ..... type of nerve fibres**

A. sensory

B. motor

C. both (1) and (2)

D. none of these

**Answer: C**



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**3. In humans, visceral organs are innervated by**

- A. both sympathetic and parasympathetic nerves
- B. sympathetic nerves but are under conscious control
- C. both sympathetic and parasympathetic nerves under conscious control

D. parasympathetic nerves under conscious control

**Answer: A**



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4. The sympathetic nerves in mammals. arise from

A. sacral nerves

B. thoraco-lumbar nerves

C. cervical nerves

D. 3rd, 7th, 9th and 10th cranial nerves

**Answer: B**



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5. The functioning of vagus nerve innervating the heart is to

- A. initiate heart beat
- B. reduce heart beat
- C. accelerate heart beat
- D. maintain constant heart beat

**Answer: B**



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6. Relay of impulses to the voluntary and striated muscles is done by

- A. Somatic neural system
- B. Sympathetic neural system
- C. Parasympathetic neural system
- D. None

**Answer: A**



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7. Choose the incorrect from the following.

A. All ichthyopsidans have 10 pairs of cranial nerves

B. All homiotherms have 12 pairs of cranial nerves

C. All amniotes have 12 pairs of cranial nerves

D. AU anaminiotes have 10 pairs of cranial nerves

**Answer: C**



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**8. Identify the one which is not related to ANS**

- A. Blood circulation
- B. Excretion
- C. Respiration
- D. Learning and memory

**Answer: D**



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9. A) Acetyl choline

B) Nor epinephrine

C) Serotonin the common feature of the above

A. All are drugs

B. All are neurotransmitters

C. All are antigens

D. All are hormones

**Answer: B**



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**10.** The somatic nervous system controls

A. Smooth muscles

B. Skeletal muscles

C. Cardiac muscles

D. Glands

**Answer: B**



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**11.** The nature of all the 31 pairs of spinal nerves is

A. Sensory

B. Afferent

C. Mixed

D. Motor

**Answer: C**



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**12. Which cranial nerve innervates organs outside the cephalic region?**

A. Trigeminal

B. Auditory

C. Glossopharyngeal

D. Vagus

**Answer: D**



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**13.** The function of our visceral organs is controlled by

A. sympathetic and somatic neural system

B. sympathetic and para sympathetic neural system

C. central and somatic neural system

D. none of the above

**Answer: B**



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## **Exercise I Sensory Reception And Processing**

1. The layer of eye ball caontaining many blood vessels and looks bluish in colour is

A. cornea

B. sclera

C. choroid

D. pupil

**Answer: C**



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**2. The visible coloured portion of the eye is**

A. retina

B. iris

C. cornea



D. lens

**Answer: B**



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**3. The aperture surrounded by the iris is called**

A. pupil

B. retina

C. cornea

D. sclera

**Answer: A**



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**4. From inside to outside retina consists of**

A. bipolar cells, photoreceptor cells, ganglion cells

B. photoreceptor cells, bipolar cells, ganglion cells

C. ganglion cells, bipolar cells, photoreceptor cells

D. photoreceptor cells, ganglion cells, bipolar cells

**Answer: C**



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**5. Scotopic vision is the function of**

A. rods

B. cones

C. pupil

D. iris

**Answer: A**



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**6. Visual purple is present in**

A. rods

B. cones

C. choroid

D. iris

**Answer: A**



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7. Blind spot in an eye is part where

- A. visual acuity is great
- B. cones are densely packed
- C. neither cones nor rods are present
- D. rods are densely packed

**Answer: C**



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8. The space between cornea and lens is

A. aqueous chamber

B. fovea

C. vitreous chamber

D. blind spot

**Answer: A**



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9. Aqueous chamber and vitreous chamber are separated by

A. iris

B. pupil

C. lens

D. cornea

**Answer: C**



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10. An aldehyde of vitamin A is

A. retinal

B. opsin

C. iris

D. comea

**Answer: A**



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11. Stapes is attached to the



A. tympanic membrane

B. oval window

C. fenestra rotunda

D. fossa ovalis

**Answer: B**



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**12. The space within the cochlear duct is**

A. scal tympani

B. scala vestibuli

C. scala media

D. organ of corti

**Answer: C**



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**13. Otolith organ helps in**

A. hearing

B. vision

C. equilibrium

D. tactile stimulation

**Answer: C**



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**14. Scala vestibuli is connected with**

A. foramen ovale

B. scala media

C. scala tympani

D. fenestra rotunda

**Answer: A**



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**15.** Chief function of crista and macula is

- A. to perceive pressure
- B. to receive vibrations
- C. to maintain equilibrium
- D. to hear

**Answer: C**



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**16.** Cochlea is a part of

A. eye

B. internal ear

C. middle ear

D. pectoral girdle

**Answer: B**



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17. Part of ear has hair cells that acts as auditory receptors is

A. basilar membrane

B. tympanum

C. stapes

D. otolith organ

**Answer: A**



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**18.** Visual purple' pigment of the eye is responsible for

- A. Color of eye
- B. Color blindness
- C. Photopic vision
- D. Scotopic vision

**Answer: D**



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**19.** Macula of internal ear refers to

- A. Yellow spot
- B. Ridge present in otolith organ
- C. Ridge present in basilar membrane
- D. Crista ampullaris of semicircular canals

**Answer: B**



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**20.** Accommodation of eye is due to



A. Ciliary muscles

B. iris muscles

C. Aqueous fluid

D. Vitreous fluid

**Answer: A**



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**21.** Which of the following regulates the amount of light entering the eye?

A. Lens

B. Ciliary body

C. Iris

D. Aqueous humor

**Answer: B**



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22. The maintenance of proper balance by a gymnast during performance is possible due to

A. Vestibular apparatus

B. Cochlea

C. Auditory canal

D. Ear ossicles

**Answer: A**



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**23.** Hair cells on the 'Crista' receive the stimuli related to

A. Smell

B. Vision

C. Change in body position

D. Hearing

**Answer: C**



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**24.** Which part among the following is not involved in hearing?

A. Otolith organ

B. Tympanum

C. Organ of corti

D. Ear ossicles

**Answer: A**



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**25.** Endolymph is seen in

A. Scala vestibuli

B. Scala tympani

C. Both 1 and 2

D. Scala media

**Answer: D**



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**26.** Stereocilia' are associated with

A. Crista ampullaris

B. Organ of corti

C. Vestibule

D. All the above

**Answer: D**



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**27.** Organ of Corti rests on

- A. Tympanic membrane
- B. Tectorial membrane
- C. Reisner's membrane
- D. Basilar membrane

**Answer: D**



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**28.** Mark the vitamin present in rhodopsin

A. Vit A

B. Vit B

C. Vit C

D. Vit D

**Answer: A**



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**29.** Hunan eyeball consists of three layers and it encloses :

A. lens, iris, optic nerve



B. lens, aqueous humor and vitreous humor

C. cornea, lens, iris

D. cornea, lens, optic nerve

**Answer: B**



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**30.** Wax gland present in the ear canal is called

A. Sweat gland

B. Prostate gland

C. Cowper's gland

D. Ceruminous gland

**Answer: D**



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**31.** The part of internal ear responsible for hearing

A. Cochlea

B. Semicircular canal

C. Utriculus

D. Sacculus

**Answer: A**



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**32.** The organ of Corti is a structure present in

- A. external ear
- B. middle ear
- C. semicircular canal.
- D. cochlea

**Answer: D**



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**33.** While travelling to higher altitudes, people can feel pain in the ear and dizziness. Which part, among the following is involved?

A. Cochlea, ear ossicles

B. Tympanic membrane

C. Eustachian tube, utricle, saccule and  
semicircular canals

D. None of the above

**Answer: C**





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## Exercise II

1. In which animal nerve cell is present but brain is absent?

- A. Sponge
- B. Earthworm
- C. Cockroach
- D. Hydra

**Answer: D**

2. Hydra receives impulses and stimuli through

- A. nerve net
- B. nematocytes
- C. sensory cells
- D. neuron cells.

**Answer: C**

3. In earthworm, neurons are

- A. sensory only
- B. motor only
- C. associated only
- D. all of these

**Answer: D**



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4. The Broca's area and Wernicke's centre are the association areas situated in cerebrum. These are

associated with

A. vision

B. posture

C. memory

D. language.

**Answer: D**



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5. Telencephalon in the brain develop's into

A. Thalamus:



B. Cerebrum

C. Cerebellum

D. Pons

**Answer: B**



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**6.** CSF, which is formed from choroid plexes, enters the subarachnoid space through

A. foramen of Magendie

B. foramen Magnum

C. foramen of Monro

D. foramen of Ovale

**Answer: A**



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**7. Identify the wrong one**

A. Frontal lobe - creative ideas

B. Temporal lobe - interpretation of sounds

C. Parietal lobe - feeling touch pain

D. Occipital lobe - recognition of smell

**Answer: D**



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**8. Injury to Broca's speech area results in**

A. Non fluent aphasia

B. Fluent aphasia

C. Amnesia

D. Laryngitis

**Answer: A**



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9. Wernicke's (posterior language) area is located in

- A. right temporal and parietal lobes
- B. left temporal and parietal lobes
- C. occipital lobes
- D. Frontal lobes

**Answer: B**



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**10.** Corpora striate of the cerebrum are

- A. Tracts of grey matter
- B. Ganglia of white matter
- C. Basal nuclei of matter
- D. Nerve of white matter

**Answer: A**



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11. Which one of the following is not a basal nucleus

A. Globus pallidus

B. Putamen

C. caudate nucleus

D. Hippocampus

**Answer: D**



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12. In a neuron (axon) at rest the concentration of  $\text{Na}^+$  is

- A. 10 times more in ECF than its axoplasm
- B. 10 times more in axoplasm than its ECF
- C. 30 times more in axoplasm than its ECF
- D. 30 times more in ECF than its axoplasm

**Answer: A**



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**13.** Which one is responsible for the generation of only IPSPs

A. Dopamine

B. Adrenaline

C. Glycine

D. DOCA

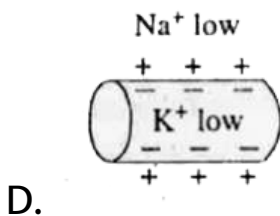
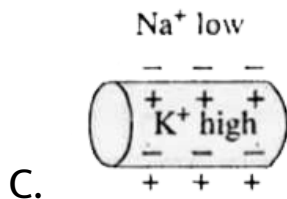
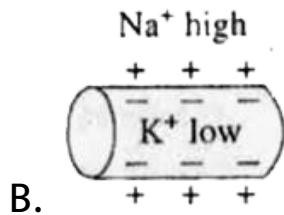
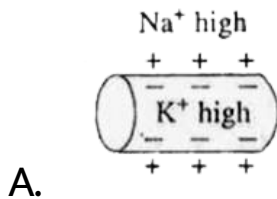
**Answer: C**



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14. Which of the following options illustrates the distribution of  $\text{Na}^+$  and  $\text{K}^+$  ions in a section of non-myelinated axon which is at resting potential?



**Answer: A**



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**15.** Which one of the following does not act as a neurotransmitter?

A. Cortisone

B. Acetylcholine

C. Epinephrine

D. Norepinephrine

**Answer: A**



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16. Sodium-potassium pump transports

- A.  $Na^+$  and  $K^+$  out of the neuron
- B.  $Na^+$  and  $K^+$  into the neuron
- C.  $Na^+$  into the neuron and  $K^+$  out of the neuron
- D.  $K^+$  into the neuron and  $Na^+$  out of the neuron

Answer: D



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17. Nerve fibres transmit the nerve message by means.

- A. chemical
- B. physical
- C. electrochemical
- D. electrical

**Answer: C**



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18. Which of the following statements are correct

regarding  $\text{Na}^+$  -  $\text{K}^+$

*pump?* i) Needs  $\neq$   $\text{rgy}(\text{ATP}) \rightarrow$  w or *kii) Expels* 3

$\text{Na}^+$   $f$  or *every* 2  $\text{K}^+$  ions imported

iii) Works against a concentration gradient

iv) Maintains resting potential

A. (i) and (iv)

B. (ii) and (iii)

C. (i) and (iii)

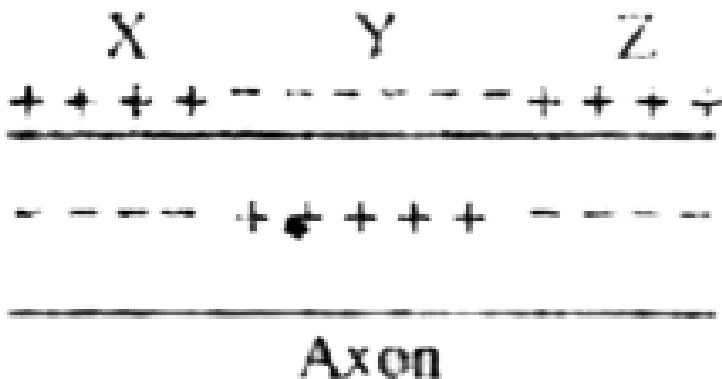
D. All of these

**Answer: D**



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19. The given figure illustrates the axonal membrane and propagation of nerve impulse. What will be the direction of propagation of the nerve impulse?



A.  $X \rightarrow y$

B.  $Y \rightarrow X$

C.  $Z \rightarrow Y$

D.  $Y \rightarrow Z$

**Answer: D**



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**20.** Local anaesthetic drugs, results in insensitivity to pain due to

A. inhibiting influx  $K^+$

B. inhibiting efflux  $K^+$

C. inhibiting efflux  $Na^+$

D. inhibiting influx  $Na^+$

**Answer: D**



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**21.** Nor adrenaline secreted by sympathetic nervous system is inactivated by

- A. Acetylcholine
- B. Acetylcholine esterase
- C. Dopamine
- D. Monamine oxidase



**Answer: D**



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**22.** Which one of the following transmits impulses to central neural system?

A. Abducen nerve

B. Trochlear nerve

C. Oculomotor nerve

D. Auditory nerve

**Answer: D**



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**23.** How many pairs of cranial nerves are mixed nerves?

A. 3

B. 5

C. 4

D. 4

**Answer: C**



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**24.** The vagus nerve is the cranial nerve.

A. 7th

B. 5th

C. 10th

D. 9th

**Answer: C**



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25. Which of the following cranial nerves has the highest number of branches?

- A. Vagus nerve
- B. Trigeminal nerve
- C. Facial nerve
- D. None of these

**Answer: A**



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26. The 3rd, 6th and 11th cranial nerves are respectively

- A. oculomotor, abducens and spinal accessory
- B. oculomotor, trigeminal and spinal accessory
- C. optic, facial and spinal accessory
- D. trochlear, abducens and vagus.

**Answer: A**



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27. Which of the following nerves is purely a motor nerve?

A. Vagus

B. Facial

C. Abducens

D. Trigeminal

**Answer: C**



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**28.** Which of the following statements is incorrect?

A. Sympathetic neural system is also known as craniosacral division of autonomous neural system.

B. Deficiency of vitamin A can cause night blindness.

C. Malleus is the largest ear ossicle.

D. Cranial nerve IX is a mixed nerve.

**Answer: A**



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29. Hypoglossal nerve controls the movements o

A. ear

B. heart

C. tongue

D. limbs

**Answer: C**



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**30.** Injury to vagus nerve in humans not likely to effect

- A. Gastro intestinal movements
- B. Pancreatic secretions
- C. Cardiac movements
- D. Tongue movements

**Answer: D**



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**31.** In a man, abducens nerve is injured. Which one of the following functions will be affected?

A. Movement of the eyeball

B. Movement of the tongue

C. Swallowing

D. Movement of the neck

**Answer: A**



**Watch Video Solution**

**32.** Which of the following nerves have non myelinated nerve fibres?

- A. Optic nerves
- B. Spinal nerves
- C. Cranial nerves
- D. Autonomic nerves

**Answer: D**



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**33.** Which of the following cranial nerves of man is both sensory and motor?

A. Olfactory

B. Optic

C. Trigeminal

D. Oculomotor

**Answer: C**



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**34.** Modified sebaceous glands associated with follicles of eye lashes

- A. Glands of Moll
- B. Glands of zeis
- C. Glands of swammerdan
- D. Glands of Harderian

**Answer: B**



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**35.** Phica semilunaris is

- A. funcational 3rd eye lid
- B. Vestigial upper lid
- C. Vestigial 3rd eye lid
- D. Vestigial lower eye lid

**Answer: C**



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**36.** The part of the ear where sound is transduced is

- A. tympanic membrane
- B. ear ossicles
- C. semicircular canals
- D. cochlea

**Answer: D**



**Watch Video Solution**

**37.** Cornea transplant in human is almost never rejected. This is because:

- A. it is composed of enucleated cells
- B. it is a non-living layer
- C. its cells are least penetrable by bacteria
- D. it has no blood supply

**Answer: D**



**Watch Video Solution**



**38.** The black pigment in the eye, which reduces the internal reflection, is located in

A. retina

B. iris

C. sclerotic

D. cornea

**Answer: A**



**Watch Video Solution**

**39.** Uncoordinated movements of the 'eye ball is because of an injury to which cranial nerve

A. III

B. V

C. VII

D. VIII

**Answer: A**



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**40.** High frequency sound waves vibrate the basilar membrane

- A. near the oval window
- B. near the helicotrema
- C. in the middle of cochlea
- D. from oval window to helicotrema

**Answer: A**



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**41.** Macula maintains

- A. static equilibrium
- B. dynamic equilibrium
- C. both (1) and (2)
- D. none of these

**Answer: C**



**Watch Video Solution**

**42.** Wax gland present in the ear canal is called

- A. Sweat gland
- B. Prostate gland
- C. Cowper's gland
- D. Sebaceous gland

**Answer: A**



**Watch Video Solution**

**43.** Alzheimer disease, characterised by less memory is due to

- A. low acetyl choline

B. high acetyl choline

C. low dopamine

D. high dopamine

**Answer: A**



**Watch Video Solution**

**44.** Increase in dopamine, that results in hallucinations and disorder behaviour is referred to as

A. Alopacia

B. Schizophrenia

C. Nyctalopia

D. Cerebral edema

**Answer: B**



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**45.** Parkinson's disease is due to loss of dopamine releasing neurons, associated with

A. Globus pallidus

B. Putamen lobe

C. Substantia nigra

D. Hippocampal lobe

**Answer: C**



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**46.** Perception of ringling sounds in the ears when there is no real sound is

A. Vestigo

B. Tinnitus

C. Otolgia



D. Otitis

**Answer: B**



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**47.** Nerves that are not found in frog but are found in humans are

- A. glossopharyngeal and hypoglossal
- B. glossopharyngeal and spinal accessory
- C. spinal accessory and hypoglossal
- D. pneumogastric and hypoglossal

**Answer: C**



**Watch Video Solution**

**48.** If sensory fibres of a nerve carry the impulses from fungiform and filiform taste papillae of tongue to pons, the nerve is

- A. Trigeminal
- B. Facial
- C. Glossopharyngeal
- D. Vagus

**Answer: B**



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### **Exercise Iii Previous Aipmt Neet Questions**

**1. Receptor sites for neurotransmitters are present on :**

- A. membranes of synaptic vesicles
- B. pre-synaptic membrane
- C. tips of axons
- D. post-synaptic membrane

**Answer: D**



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2. A baby boy aged two years is admitted to play school and passes through a dental check-up. The dentist observed that boy had twenty teeth. Which teeth were absent ?

A. Incisors

B. Canines

C. Pre-molars

D. Molars

**Answer: C**



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**3. Good vision depends on adequate intake of carotene rich food.**

Select the best option from the following statements.

A. Vitamin A derivatives are formed from carotene

B. The photopigments are embedded in the membrane discs of the inner segment

C. Retinal is a derivative of vitamin A

D. Retinal is a light absorbing part of all the  
visual photopigments

**Answer: B**



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**4.** Photosensitive compound in human eye is made  
up of

A. Guanosine and retinal

B. Opsin and Retinal

C. Opsin and Retinol

D. Transducin and Retinene

**Answer: B**



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**5. Choose the correct :**

A. Nociceptors respond to changes in pressure

B. Meissner's corpuscles are thermoreceptors

C. Photoreceptors in human eye are depolarised during darkness and become hyperpolarised in

response to the light stimulus

D. Receptors do not produce graded potentials

**Answer: C**



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**6.** Destruction of the anterior horn cells of the spinal cord would result in loss of :

A. Integrating impulses

B. Sensory impulses

C. Voluntary motor impulse



D. Commissural impulses

**Answer: C**



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7. In mammalian eye, the 'fovea' is the center of the visual field, where :

- A. More rods than cones are found
- B. High density of cones occur, but has no rods
- C. The optic nerve leaves the eye
- D. Only rods are present

**Answer: B**



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**8.** A gymnast is able to balance his body upside down even in the total darkness because of :

- A. Organ of corti
- B. Cochlea
- C. Vestibular apparatus
- D. Tectorial membrane

**Answer: C**



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9. Which of the following regions of the brain is incorrectly paired with its function?

- A. Cerebrum-calculation and contemplation
- B. Medulla oblongata-homeostatic control
- C. Cerebellum-language comprehension
- D. Corpus callosum-communication between the left and right cerebral cortices

**Answer: C**



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**10.** Stimulation of a muscle fiber by a motor neuron occurs at

- A. The neuromuscular junction
- B. The transverse tubules
- C. The myofibril
- D. The sarcoplasmic reticulum

**Answer: A**



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11. Which one of the following statements is not correct?

A. Retinal is the light absorbing portion of visual photo pigments.

B. In retina the rods have the photopigments rhodopsin while cones have three different photopigments.

C. Retinal is a derivative of Vitamin C.

D. Rhodopsin is the purplish red protein present in rods only

**Answer: C**



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**12.** Injury localized to the hypothalamus would most likely disrupt :

- A. Short-term memory.
- B. Coordination during locomotion
- C. Executive functions, such as decision making
- D. Regulation of body temperature

**Answer: D**



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13. A diagram showing axon terminal and synapse is given. Identify correctly at least two of A-D.



A. A-Receptor, C-Synaptic vesicles

B. B-Synaptic connection, D- $K^{+}$

C. A-Neurotransmitter, B-Synaptic cleft

D. C-Neurotransmitter, D- $Ca^{++}$

**Answer: A**

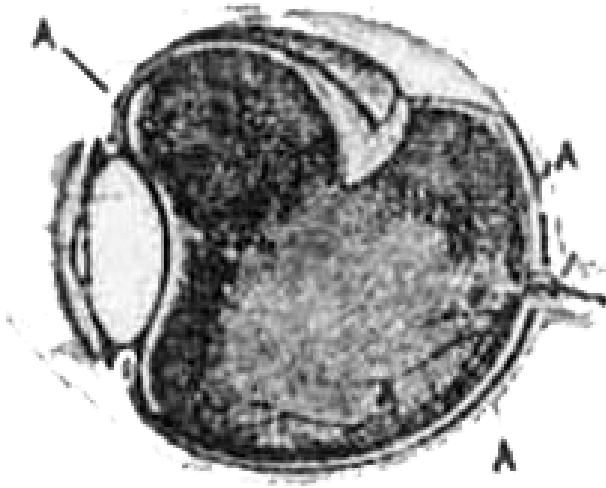


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**14.** Parts A, B, C and D of the human eye are shown in the diagram. Select the option which gives correct identification along with its



functions/characteristics:



A. A-Retina-contains photo receptors-rods and  
cones

B. B-Blind spot-has only a few rods and cones

C. C-Aqueous chamber-reflects the light which  
does not pass through the lens

D. D-choroid-its anterior part forms ciliary body

**Answer: A**



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**15.** A person entering an empty room suddenly find a snake right in front on opening the door. Which one of the following is likely to happen in his neuro-hormonal control system?

A. Hypothalamus activates the parasympathetic division of brain

B. Sympathetic nervous system is activated releasing epinephrine and norepinephrine from adrenal cortex

C. Sympathetic nervous system is activated releasing epinephrine and norepinephrine from adrenal medulla

D. Neurotransmitters diffuse rapidly across the cleft and transmit a nerve impulse

**Answer: C**



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**16.** Which part of the human ear plays no role in hearing as such but is otherwise very much required?

A. Vestibular apparatus

B. Larossicles

C. Eustachian tube

D. Organ of corti

**Answer: A**



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17. The human hind brain comprises three parts one of which is

- A. Cerebellum
- B. Hypothalamus
- C. Spinal
- D. Corpus callosum

**Answer: A**



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18. When a neuron is in resting state, i.e., not conducting any impulse, the axonal membrane is :

- A. Comparative more permeable of  $K^{+}$  ions and nearly impermeable to  $Na^{+}$  ions
- B. Comparatively more permeable to  $Na^{+}$  ions and nearly impermeable to  $K^{+}$  ions
- C. Equally permeable to both  $Na^{+}$  and  $K^{+}$  ions
- D. Impermeable to both  $Na^{+}$  and  $K^{+}$  ions

**Answer: A**



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**19.** The nerve centres which control the body temperature and the urge for eating are contained in:

A. Hypothalamus

B. Pons

C. Cerebellum

D. Thalamus

**Answer: A**



**Watch Video Solution**

20. When part of human brain is concerned with the regulation of body temperature?

- A. Hypothalamus
- B. Medulla oblongata
- C. Cerebellum debe
- D. Cerebrum

**Answer: A**



**Watch Video Solution**



**21.** Alzheimer disease in humans is associated with the deficiency of :

- A. Gamma aminobutyric acid(GABA)
- B. Dopamine
- C. Glutamic acid
- D. Acetylcholine

**Answer: D**



**Watch Video Solution**

22. Cornea transplant in human is almost never rejected. This is because:

- A. It is composed of enucleated cells
- B. It is a non-living layer
- C. Its cells are least penetrable by bacteria
- D. It has no blood supply

**Answer: D**



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23. During the propagation of a nerve impulse, the action potential results from the movement of :

A.  $K^{+}$  ions from intracellular fluid to extracellular fluid

B.  $Na^{+}$  ions from extracellular fluid to intracellular fluid

C.  $K^{+}$  ions from extracellular fluid to intracellular fluid

D.  $Na^{+}$  ions from intracellular fluid to extracellular fluid

**Answer: B**



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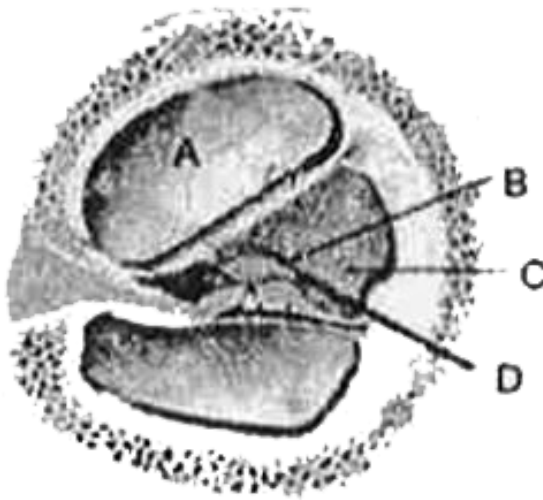
**24.** Which one of the following is the correct difference between rod cells and cone cells of our retina?

	<b>Rod cells</b>	<b>Cone cells</b>
1) Overall Colour vision function	Vision in poor light	and detailed vision in bright light
2) Distribution	More concentrated in the centre of retina	Evenly distribute all over retina
3) Visual acuity	High	Low
4) Visual Pigment	Iodopsin	Rhodopsin



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25. Given below is a diagrammatic cross section of a single loop of human cochlea :



Which one of the following options correctly represents the names of three different parts?

A. D: Sensory hair cells, A : Endolymph,

B: Tectorial membrane

B. A : Perilymph, B : Tectroial membrane,

C: Endolymph

C. B: Tectorial membrane, C : Perilymph,

D: Secretory cells

D. C : Endolymph, D : Sensoty hair cells,

A: Serum

**Answer: B**



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**26.** Which one of the following pairs of structures distinguishes a nerve cell from other types of cell?

- A. Nucleus and mitochondria
- B. Perikaryon and dendrites
- C. Vacuoles and fibres
- D. Flagellum and medullary sheath

**Answer: B**



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27. Which one of the following is an example of negative feedback loop in humans?

A. Secretion of sweat glands and constriction of skin blood vessels when it is too hot

B. Constriction of skin blood vessels and contraction of skeletal muscles when it is too cold

C. Secretion of tears after falling of sand particles into the eye



D. Salivation of mouth at the sight of delicious food

**Answer: B**



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**28.** Bowman's glands are located in the

- A. Olfactory epithelium of our nose
- B. Proximal end of uriniferous tubules
- C. Anterior pituitary

D. Female reproductive system of cockroach be  
positive

**Answer: A**



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**29.** During the transmission of nerve impulse through a nerve fibre, the potential on the inner side of the plasma membrane has which type of electric charge?

A. First positive, then negative and again back to positive

B. First negative, then positive and again back to negative

C. First positive, then negative and continue to be negative

D. First negative, then positive and continue to be positive

**Answer: B**



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**30.** Rowman's glands are found in :

- A. Olfactory epithelium
- B. External auditory canal
- C. Cortical nephrons only
- D. Juxtamedullary nephrons

**Answer: A**



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**31.** Which one of the following does not act as a neurotransmitter?

- A. Acetylcholine
- B. Epinephrine
- C. Norepinephrine
- D. Cortisone

**Answer: D**



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**32.** One of the examples of the action of the autonomous nervous system is :

- A. Knee-jerk response
- B. Pupillary reflex
- C. Peristalsis of the intestines de
- D. Swallowing of food

**Answer: C**



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**33.** In a man, abducens nerve is injured. Which one of the following functions will be affected?

- A. Swallowing
- B. Movement of the eye ball
- C. Movement of the neck.
- D. Movement of the tongue

**Answer: B**



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**34.** Parkinson's disease (characterized by tremors and progressive rigidity of limbs) is caused by degeneration of brain neurons that are involved in movement control and make use of neurotransmitter :

A. Norepinephrine

B. Acetylcholine

C. GABA

D. Dopamine

**Answer: D**



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